heparin (UFH) in many patients to achieve greater clinical efficacy and pharmacoeconomic efficiency. Most hospitals have not achieved clinically effective use of LMWH and UFH in the treatment and prevention of thrombotic disorders. The Clinical Effectiveness Initiative (CEI) was designed to help hospitals achieve better data assessment to measure patient outcomes, reduce medical errors, reduce risk, and reach towards optimal financial performance in these patient groups. **METHODS:** CEI begins with analysis of data available from the UB-92 and pharmacy or cost-accounting systems. The actuarial analysis provides a risk-adjusted comparison of patient cohorts receiving antithrombotics (LMWH or UFH). Results are reported to the institution in a format suitable for use with performance improvement activities and physicians. The total cost for each cohort is broken down into drug acquisition costs and costs associated with laboratory tests, level of care, supplies and length of stay. **RESULTS:** Results completed from two hospitals in 87 DRGs that had at least 10 discharges in each drug category (5374 LMWH, 9380 UFH) showed a case mix adjusted average savings of $698 per discharge. The study to-date has showed that the use of LMWH reduced overall cost in many high-use categories, despite the higher drug acquisition cost. Those included DVT, Hip and Knee replacement cases. Findings also demonstrated an opportunity for substantial savings with greater selective use of LMWH in several cohorts that will shared in chart form. The data analysis and structured interviews with hospital leadership presented valuable insights into how best to facilitate changes in practice patterns that can be continually measured. **CONCLUSIONS:** We conclude that the data assessment and efficiency modeling capabilities of CEI are powerful tools to help hospitals achieve clinical effectiveness, especially when integrated into a hospital's performance improvement program.

## PHARMACOECONOMIC & OUTCOMES RESEARCH METHODOLOGY STUDIES—Economic Studies

**PMD14**

### DEVELOPING A HEALTH ECONOMIC EVALUATION DATABASE IN JAPAN: JEED PROJECT

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**OBJECTIVES:** The Japan Economic Evaluation Database (JEED) project aims for critical appraisal of health economic evaluation studies in Japan and build a database with structured abstracts in collaboration with NHS-EED. With careful preparation in 2001, we performed handsearching of all the scientific articles and reports in the health economic fields in Japan in 2002. We analyzed current status of economic evaluation studies and methodological issues. **METHODS:** Since January 2002, we started to hand-search all articles and reports published in Japanese journals. Key words for handsearching were types of economic evaluations such as cost-effectiveness analysis or cost-utility analysis and methodological terms such as utility score, willingness to pay, QOL measurement and costing. We also adopted words for study areas such as health economic evaluations and pharmacoeconomics. We classified the articles into some categories and picked up methodological issues in Japan. **RESULTS:** Up to the end of September 2002, we identified 223 articles and reports related to health economic evaluations that appeared in a total of 4881 journals. Most of the articles were general remarks or proceedings. Thirty-four articles out of 233 were classified as original articles, only 6 of which could be identified as full economic evaluations. Nineteen articles were on costing and 4 were on measuring effectiveness or utility. We picked up some issues in economic evaluation studies in Japan. Most of the studies used reimbursement fee though there were some studies for actual costing. Because QOL data for health status were limited in Japanese population, many studies adopted data from foreign countries. There were some articles which did not use terms for economic evaluation studies correctly. **CONCLUSIONS:** To promote good economic evaluation studies in Japan, systematic critical appraisals and dissemination of information of good studies are needed. We may have to consider methodological guidelines or recommendations for good economic evaluation studies.

**PMD15**

### DO DIFFERENCES AMONG COST-EFFECTIVENESS ANALYSIS GUIDELINE RECOMMENDATIONS AFFECT POLICY CONCLUSIONS?

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**OBJECTIVES:** Guidelines for conducting cost-utility analyses (CUAs) contain inconsistent recommendations for selecting cost, quality of life, and discount rate parameters. Sensitivity analyses can indicate whether adhering to different guidelines results in different policy recommendations. The purpose of this study is to investigate the use of sensitivity analyses to test economic parameters in the cost-utility literature. **METHODS:** Recommendations from published guidelines are summarized. CUAs of pharmaceutical therapies identified in a prior study (N = 71 articles) were reviewed and further audited. We identified threshold CU ratios (N = 36) and base cases for which sensitivity analyses were reported (N = 123). For each base case, up to 2 sensitivity analyses for cost (N = 97), quality of life (N = 136), and discount rate (N = 127) were examined. **RESULTS:** There are substantial disagreements among the guidelines regarding economic parameters. The most frequently mentioned threshold CU ratios were $20,000/QALY, $50,000/

QALY, and $100,000/QALY. The proportions of sensitivity analyses reporting quantitative results that crossed the threshold above the base case CU ratio were 23% for cost sensitivity analyses, 38% for quality-of-life sensitivity analyses, and 15% for discount rate sensitivity analyses. There was no difference in quality ratings between CUAs that reported sensitivity analysis results that exceeded the thresholds (N = 17) and those that did not, but the overall quality and completeness ratings were only moderate. **CONCLUSIONS:** Sensitivity analyses for economic parameters are widely reported and can be used to identify whether choosing different assumptions leads to a different decision. Different decisions occur more frequently for cost and quality-of-life assumptions than for discount rate assumptions. Sensitivity analyses for cost and quality-of-life parameters should be used to test alternative guideline recommendations, but sensitivity analyses for discount rates do not have the same import. Adhering to recommendations on performing cost-effectiveness analyses would improve the overall quality of these types of studies.

**PMD16**

## FACILITATING USER INTERACTION WITH PHARMACOECONOMIC MODELS: MODEL-IT®

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Although a pharmacoeconomic model is usually created for one setting, there is often interest in using it in other jurisdictions. This requires that it be modifiable by other users, and given the complexity of most models, this may be difficult to do. **OBJECTIVE:** To develop a low cost tool that standardizes model inputs and outputs and allows models to be easily edited and analyzed. **METHODS:** An electronic viewer (MODEL-IT®) was developed as a "container" that allows display and interaction with disease models. The tool is programmed to work as a stand-alone application in a Windows© environment. It is designed to read any model that has been formatted according to a simple set of rules. The model engine itself can be in any format, including EXCEL. The screens were developed to maintain a consistent format yet be able to display inputs and outcomes pertinent to the specific model. Tool functions are accessed by self-explanatory buttons. **RESULTS:** MODEL-IT® classifies inputs into specific categories including population characteristics, disease parameters, model controls (e.g. number of replications), treatment details and costs. All fields are editable. Outcomes are model-specific but are also classified into costs, effectiveness, survival and cost-effectiveness. Model versions can be saved for later use, and all screens can be printed or exported to other programs. Model documentation can be incorporated as a help file. The Model-IT® viewer is available free of charge. **CONCLUSIONS:** A viewer has been developed to allow users to interact with models in a standard format and to increase interdisciplinary access and understanding of models in order to support their wider use in decision-making about new pharmaceuticals.

**PMD17**

## ARE PUBLISHED COST-UTILITY ANALYSES IMPROVING?

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**OBJECTIVES:** Our objectives were to investigate: 1) whether methods and reporting of published cost-utility analyses (CUAs) have improved over time; and 2) whether quality is higher in journals that published more CUAs. **METHODS:** A systematic search of the English-language medical literature identified 522 original CUAs published from 1976 through 2001. Each study was independently audited by two trained readers for a core set of data elements on study methodology and reporting, and a subjective assessment of overall study quality on a scale from 1 (low) to 7 (high)—data available at: http://www.hsph.harvard.edu/cearegistry/. High-volume journals were defined as those publishing 4 or more CUAs from 1976–2001. This study updates our previous analysis, which examined the quality of CUAs from 1976 to 1997. **RESULTS:** Several key elements improved over time. Comparing the 1998–2001 period (n = 294) to 1976–1997 (n = 228), articles improved in: clearly presenting the study perspective (73% vs. 52%, $p < 0.001$); performing sensitivity analyses (93% vs. 89%, $p = 0.092$); discounting both costs and QALYs (82% vs. 72%, $p = 0.016$); and calculating and reporting incremental ratios (69% vs. 46%, $p < 0.001$). More studies in the latter period took the societal perspective (30% vs. 23%). The overall quality score improved as well, though the change was not significant (4.25 vs. 4.10, $p = 0.19$). The proportion of studies disclosing funding sources did not change (64% vs. 65%, $p = 0.88$). Average quality score is greater in higher- vs. lower-volume journals (4.5 vs. 3.7, $p < 0.001$). **CONCLUSION:** Published CUAs have improved over time, though many still omit basic elements. Clinical journals, particularly those with little experience publishing CUAs, need to adopt and enforce standard protocols for conducting and reporting.

**PMD18**

## ECONOMIC EVALUATION IN CLINIC TRIALS: CALCULATING HOSPITALIZATION COSTS FROM CLINIC TRIAL DATA

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**OBJECTIVES:** Economic evaluation is increasing common in clinical trials. Often, individuals' health care costs are not observed in these trials, rather health care cost estimates are often calculated from observed resource